KOMENDAR, V.I.

Gnarled pine woods of the Charnogor Range in the eastern Carpathians. Bot.zhur.[Ukr.] 11 no.3:67-80 '54. (MLRA 8:7)

1. Institut botaniki AN URSR, viddil geobotaniki
(Charnogor range)

KOMENDAR, V.I.

Characteristics of the timberline in the Soviet Carpathian Chernagora. Bot.zhur. [Ukr.] 12 no.4:75-83 '55. (MLRA 9:3)

1. Uzhgorods'kiy derzhavniy universitet, kafedra morfologii i sistematiki roslin.
(Chernagora--Forests and forestry)

USSR / Forestry. Dendrology. K-2

Abs Jour: Ref Zhur-Biol., No 6, 1958, 24870.

Author : Komendar, V. I.; Mankovich, G. R.
Inst : Not given.
Title : Timber Resources of the Transcarpathian-Ukraine and Their Significance for the National Economy.

Orig Pub: Dokl. i soobshch. Uzhgorodsk. un-t, 1957, No 1, 21-22.

Abstract: No abstract.

Card 1/1

21

Dynamics of the vegetation zones of eastern Carpathians [with summary in English]. Ukr.bot.zhur. 14 no.4:15-25 '57. (MIRA 11:1)

1.Uzhgorods'kiy derzhavniy universitet,Kafedra morfologii i sistematiki roslin.
(Carpathian Mountain--Phytogeography)

COUNTRY : USSR
CATEGORY : Forestry. Dendrology. E

ABS. JOUR. : RZhBiol., No. 23 1958, No. 104518

AUTHOR : Savel'ev, O. V.; Komendar, V. I.
INST. : Uzhgorodskiy University
TITLE : Late and Early Beech in Transcarpathia

ORIG. PUB. : Nauchn. zap. Uzhgorodsk. un-t, 1957, 23, 197-199

ABSTRACT : In the Transcarpathian region, more than half of all the large forests are composed of *Fagus silvatica*. In different places in Transcarpathia grow the late (*F. silvatica f. praecox*) and early (*F. silvatica f. tarda*) forms of beech. The difference in dates of the start of bud opening for early and late beech is 9-12 days. Higher above sea level the leaves open later than at lower levels of the slopes. The morphological and biological characteristics of late and early forms, in the opinion of the authors, are inherited. In connection with the frequent injurability of beech under mountain conditions with late frosts, attention is directed

Card: 1/2

KOMENDAR, V.I.

Vegetation of the Chernagora Range in the eastern Carpathians as a valuable natural monument. Mat.pro.okhor.pryr.na Ukr. no.2: 11-30 '60. (MIRA 13:8)
(Chernagora Mountains--Botany)

KOMENDAR, V.I.; FODOR, S.S.

A heather-sphagnum bog in Transcarpathia, Ukrainian S.S.R.
Ukr.bot.zhur. 17 no.3:79-81 '60. (MIRA 13:7)

1. Uzhgorodskiy gosudarstvennyy universitet, kafedra morfologii i sistematiki rasteniy.

(Irshava District--Swamps)

KOMENDAR, V.I.

Recent data on the classification and development of Pinus mughus Scop. associations (Mugheta) in the Ukrainian Carpathians. Ukr. bot. zhur. 17 no.6:76-84 '60. (MIRA 14:3)

1. Uzhgorodskiy gosudarstvennyy universitet, kafedra morfologii i sistematiki rasteniy.

(Carpathian Mountains—Spruce) (Forest ecology)

KOMENDAR, V.I.

Geobotanical characteristic of the growths of the green alder Alnus viridis D.C. in the Ukrainian Carpathians. Ukr. bot. zhur. 20 no.4:65-72 '63. (MIRA 17:4)

1. Uzhgorodskiy gosudarstvennyy universitet.

KOMENDAR, V.I.

Phytocenosis of the curvuletum in the Ukrainian Carpathians. Nauch. dokl. vys. shkoly; biol. nauki no. 2:123-127 '64.
(MIRA 17:5)

1. Rekomendovana kafedroy morfologii i sistematiki rasteniy Uzhgorodskogo gosudarstvennogo universiteta.

KOMENDAR, V.I.

Occurrence of Narcissus angustifolius Curt. in Transcaucasia.
Bot. zhur. 49 no.7:1024-1032 Jl '64 (MIRA 17:8)

1. Uzhgorodskiy gosudarstvennyy universitet.

KOMENDAR, V.I.; TOVT, Ye.S. [Tovt, IE.S.]

Discovery of the hard grass Sclerochloa dura (L.) P.B. in Transcarpathia. Ukr. bot. zhur. 22 no.2:105 '65. (MIRA 18:4))

1. Uzhgorodskiy gosudarstvennyy universitet, kafedra morfologii i sistematiki rasteniy.

KOMENDAR, V.I.; KRAYEV, V.G. [Kraiev, V.H.]; LUCHKEVICH, M.Yu. [Luchkevych, M.IU]

Studying the underground parts of herbaceous plants of the Rivna (Ukrainian Carpathians) alpine meadows. Ukr. bot. zhur. 22 no.4:48-57 '65. (MIRA 18:10)

1. Uzhgorodskiy gosudarstvennyy universitet, kafedra morfologii i sistematiki rasteniy.

OSTROWSKI, K.; KOMENDER, J.; KOSCIANEK, Hanna; KWARECKI, K.

Elution of some substances from the tissues fixed by the "freeze-substitution" method. Acta biochim. polon. 9 no.2:125-130 '62.

1. Department of Histology and Embryology, Medical School, Warszawa.
(HISTOLOGICAL TECHNIQUES) (LIVER chem)
(PHOSPHURUS chem) (NITROGEN$_7$ chem)

OSTROWSKI, K., doc. dr med.; KOMENDER, J.; KWARECKI, K.

Quantitative research on the solubility of proteins extracted from tissues fixed by different chemical and physical methods. Folia morphol 21 no.3:393-398 '62.

1. Zaklad Histologii i Embrologii, Akademia Medyczna, Warszawa. Kierownik; doc. dr K. Ostrowski

ROSZKOWSKI, Ireneusz; KOMENDER, Jadwiga

EEG curves in newborn infants born to mothers with pregnancy or labor complications. Ginek.pol.34 no.6:781-793 '63.

1. Z II Kliniki Poloznictwa i Chorob Kobiecych AM w Warszawie. Kierownik: prof. dr.med. I.Roszkowski.

*

KOMENDER, Jadwiga

Results of the some laboratory investigations of newborn infants of mothers with pregnancy toxemias. Pol. tyg. lek. 17 no.43:1672-1674 22 D '62.

1. Z II Kliniki Poloznictwa i Chorob Kobiecych AM w Warszawie; kierownik: prof. dr med. I. Roszkowski.
(PREGNANCY TOXEMIAS) (INFANT NEWBORN DISEASES)

KOMENDER, Jadwiga; WOJCICKA, Janina

Attempted evaluation of the relationship between the level of uric acid in maternal and umbilical sera. Ginek. pol. 35 no.1: 9-13 Ja-F'64

1. Z II Kliniki Poloznictwa i Chorob Kobiecych AM w Warszawie; kierownik: prof.dr.med. I.Roszkowski.

*

POLAND

Jadwiga KOMENDER, Second Clinic of Obstetrics and Gynecology (II Klinika Poloznictwa i Chorob Kobiecych) Head (kierownik) Prof Dr I. ROSZKOWSKI, Warsaw.

"Results of Some Laboratory Tests in Newborns from Mothers with Toxemia of Pregnancy."

Warsaw, Polski Tygodnik Lekarski, Vol 17, No 43, 22 Oct 1962; pp 1672-1674.

Abstract [English summary modified]: Data on 30 newborns from as many eclamptic or pre-eclamptic (blood pressure over 140/70 in all, edema in 24, proteinuria in 17,) mothers: tabulation of birth weights and hematologic data. In comparison with norm, there was observed low birth weight, low total serum protein, mild leukocytosis. Four tables, 9 Polish and 23 Western references.

1/1

KOMENDAT, G.Ya, Cand Tech Sci--(diss) "~~Tension~~ Stress-armored reinforced concrete constructions with rod armature ~~which is drained~~ stressed by the electro-therm~~ic~~al method. (Theoretical substantiation, ~~computation~~ design, and experimental studies). L'vov, 1958. 31 pp with drawings; (Min of Higher Education UkSSR. L'vov Polytechnic Inst), 150 copies (KL,30-58, 127)

LOZOVOY, Yu.I., dots.; KOMENDAT, G.Ya., starshiy prepodavatel'

Electrothermal method for prestressing reinforcement rods in reinforced concrete members. Nauch.dokl.vys.shkoly; stroi. no.3:132-141 '58. (MIRA 12:7)

1. Rekomendovana kafedroy stroitel'nogo proizvodstva L'vovskogo politekhnicheskogo instituta.
(Prestressed concrete)

LEVI, S.S., kand.tekhn.nauk; KOMENDAT, G.Ya, inzh.

Electrothermal method for stressing reinforcement bars. Stroi. prom. 36 no.8:13-17 Ag '58. (MIRA 11:9)
(Prestressed concrete)

KOMENDER, Janusz

Phagocytic capacity of acidophilic granulocytes in the blood of guinea pigs. Postepy hig. med. dosw. 13 no.3:323-327 1959.
(PHAGOCYTOSIS)

OSTROWSKI, K.; CZEKALINSKI, L.; KOMENDER, J.

An improved model of lyophilization apparatus for histological purposes. Bul Ac Pol biol 8 no.1:35-39 '60. (EEAI 10:1)

1. Institute of Experimental Pathology, Polish Academy of Sciences and Department of Histology and Embryology, School of Medicine, Warsaw. Presented by L.Paszkiewicz.

(HISTOLOGY) (DRYING)

OSTROWSKI, K.; KOMENDER, J.; KWARECKI, K.

Quantitative investigations on the solubility of proteins extracted from tissues fixed with various chemical and physical methods. Acta biochim.polon.8 no.1:83-87 '61.

1. Department of Histology and Embriology, School of Medicine, Warsaw.

(PROTEINS chem)

KCMENDOVA, V. ; JADRNY, J.

Treatment of cyanide waste waters by alkaline chlorination. p. 365.

VODNI HOSPOSARSTVI. (Ministerstvo energetiky a vodniho hospodarstvi a Vedecka technicka spolecnost pro vodni hospodarstvi) Praha, Czechoslovakia. No. 9, Sept. 1959.

Monthly List of East European Accessions (EEAI) LC, Vol. 8, No. 11, November 1959.

Uncl.

KOMENDOVA, V. ; JADRNY, J.

Disposal of metal-finishing waste water. p. 428.

VODNI HOSPODARSTVI. (Ministerstvo energetiky a vodniho hospodarstvi a Vedecka technicka spolecnost pro vodni hospodarstvi) Praha, Czechoslovakia. No. 10, Oct. 1959.

Monthly List of East European Accessions (EEAI) LC, Vol. 8, No. 11, November 1959.

Uncl.

KOMENDOVA, V., inz.; DRABEK, B., dr.

Physicochemical properties of sludges. Vodni hosp 14
no. 3:99-102 '64.

1. Research Institute of Water Resources, Brno.

KOMENDOVA, Vlasta, inz.; DRABEK, Borivoj, dr.

Electrochemical purification of cyanide waste waters. Vodni hosp 14 no.11:411-414 '64.

1. Research Institute of Water Resources Management, Brno.

KOMENIC, N.

Profitableness, economic aspects and productivity of industries generating electric power. p. 32.

ELEKTROPRIVREDA, Beograd, Vol. 9, No. 1, Jan. 1956

SO: EEAL, Vol. 5, No. 7 July 1956

NESTERENKO, A.I.; KOMENSKAYA, M.I.

Dissertations on surgery and related specialties presented during 1957-1958. Vest.khir. 85 no.10:153-159 O '60.
(MIRA 13:12)

(BIBLIOGRAPHY--SURGERY)

KOMENSKIY, S.

MEDOVIKOV, I.; KOMENSKIY, S.

One story standard type harbor warehouse. Mor.flot 17
no.5:26-28 My '57. (MIRA 10:7)

1. Ekspert Tekhsoveta Ministerstva morskogo flota (for Medovikov).
2. Uchenyy sekretar' Nauchno-tekhnicheskogo obshchestva vodnogo transporta v Soyuzmorproyekte. (for Komenskiy)

(Warehouses)

BARANOV, A.Yu. (Leningrad); KOMENYUK, V.V. (Leningrad)

Solution of a linear problem on minimizing the square functional in Hilbert space. Avtom. i telem. 26 no.4:615-620 Ap '65.

(MIRA 18:6)

KOMETIANI, Z. P.

"Role of Free Radicals in the Formation of Electrical Potential on Biological Membranes."

Paper submitted for the International Biophysics Congress Stockholm 31 Jul - 4 Aug. '61.

Inst of Biophysics, AS GSSR

KOMER, D.

KOMER, D., inzh.

[redacted]

We need a handbook on cement. Stroi.mat. 3 no.7:29 Jl '57.
(MIRA 10:10)
(Cement industries--Handbooks, manuals, etc.)

KOMERS, J.

"Gas chromatography abstracts" compiles by C.E.B.Knapman. Reviewed by J.Komers. Chem prum 13 no.9:488 S '63.

1. Ceskoslovenska akademie ved.

KOMERA, R.; SIMA, J.; JANAK, J.

"Gas chromatography of monohydric phenols." In German. p. 1492.

COLLECTION OF CZECHOSLOVAK CHEMICAL COMMUNICATIONS, Praha, Czech.,
Vol 24, No. 5, May 1959

Monthly List of East European Accessions (EEAI), LC, Vol. 8, No. 6, Sept. 59
Unclassified

KOMEROV, S. G.

N/5
755.3
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Vagonnoye Khozyaystvo (Railroad Car Economy, by) E. A. Lapshin (I) S. G. Komerov. Moskva, Transzheldorizdat, 1955.
190 p. Illus., Diagrs., Tables.
Literatura: p. (187).

KONOKOTINA, A.G.; KOSHKINA, R.I.; KOMERS, G.I.

Preservation of cultures of Leuconostoc mesenteroides under laboratory conditions. Trudy Len.khim.-farm.inst. no.13:89-101 '62. (MIRA 15:10)

1. Kafedra mikrobiologii (zav. prof. Kiselev, P.N.) Leningradskogo khimiko-farmatsevticheskogo instituta.
(LACTIC ACID BACTERIA)

KOMERS, G.M. (Nemacka); WOLF, dr., (Nemacka); LEDER, M. (Velika Britanija); PIRARD, M. (Belgija); CRESSWELL, DR. (Velika Britanija); MAGNUSSON, (Svedska); MONEYRON, (Francuska); WALSER, (Svajcarska); BOEKHOLT, (Holandija)

Annual reports of the chairman of the International Institute of Welding Commission XII "Special kinds of electric arc welding" and the chairmen of its subcommissions and working groups. Zavarivac 6 no.2/3:41-43 '61.

1. Predsednik Komisije XII (for Komers). 2. Predsednik Potkomisije "A" (for Wolf). 3. Predsednik Potkomisije "B" (for Ledger). 4. Predsendnik Potkomisije "C" (for Pirard). 5. Predsednik Radne grupe "d" (for Cresswell). 6. Predsednik Potkomisije "E" (for Magnusson). 7. Predsednik Radne grupe "f" (for Moneyron). 8. Predsednik Radne grupe "g" (for Walser). 9. Predsednik Radne grupe "h" (for Boekholt).

CA Komers, J.

17

The purification of waste waters from mineral-oil refineries. I, II. Stanislav Landa and Jiří Komers (Ústav technol. paliv, topení a vody, Prague, Czech.). *Chem. Průmysl* 1(26), 67-72, 102-7(1951).—The waste waters contg. nontoxic org. compds. can kill fish by suffocation if in the decompn. process O is absorbed. The purification of waste waters, contg. phenols, naphthenic acids, and naphthenates and their toxic effect on fish are describ J. M.

KOMERS, J.

Czechoslovakia /Chemical Technology. Chemical Products and Their Application I-14

Water treatment. Sewage water.

Abs Jour: Referat Zhur - Khimiya, No 9, 1957, 31784

Author : Komers J.

Title : The Problem of Decontamination of Phenolic Sewage Water

Orig Pub: Vodni hospodarstvi, 1955, 5, No 9, 322-324

Abstract: The available procedures are briefly considered.

Card 1/1

KOHERS, J.

Establishment and purposes of the Czechoslovak Commitee for Phenolic Waste. p. 179. VODA. (Ustredni sprava vodniho hospodarstvi) Praha. Vol. 35, no. 6, June 1956.

SOURCE: East European Accessions List, Vol. 5, no. 9, September 1956

KOMERS, KAREL

Distr: 4E2c(j)

Use of polymer-coated electrodes for the potentiometric indication of the equivalence point. Karel Komers (Vysoká škola chem.-technol., Pardubice, Czech.). *Sborník věd. prací, Vysoká škola chem.-technol. Pardubice* 1 113-19.—Electrodes were dipped in solns. of polystyrene, poly(Me methacrylate), poly(vinyl chloride), and polychloroprene. In potentiometric titrations the coating retarded the electrode processes and prolonged the life of the electrode. The performance of the coated electrode was about equal to that of a normal electrode.

Alexei B. Bolkovec

COUNTRY : CZECHOSLOVAKIA B
CATEGORY : Physical Chemistry. Electrochemistry.

ABS. JOUR. : RZhKhim., No 17, 1959, No. 60160

AUTHOR : Tochstein, A., Komers, KAREL
INSTITUTE : -
TITLE : Electrometric Indication of the Equivalence Point Employing Two Polarizing Electrodes for*
ORIG. PUB. : Chem. listy, 1958, 52 No 8, 1479-1484

ABSTRACT : Investigated is the shape of titration curves of the irreversible oxidation-reduction systems at a constant voltage applied to two indicating type electrodes (the method of "dead center"), or at a constant current (the differential method). For the construction of curves, the theory of the irreversible polarographic processes is utilized, employing an "a" constant, the reciprocal of which designates the reaction velocity constant for the reduction and oxidation reaction and a coefficient of transition α.

*the Irreversible Oxidation-Reduction Systems

Card: 1/2

Higher Chem-Technol School, Pardubice

B-18

Kamers, R.

Org [illegible]
[illegible] mination of [illegible]

[illegible]

10 drops of a mixture of alcoholic methyl red soln. (0·1%) and aq. bromocresol green soln. (0·1%)

[illegible] until the colour changes to green. The method has been applied [illegible]

Komers, R.

CZECHOSLOVAKIA/ Analytical Chemistry - Analysis of Organic Substances G-3

Abs Jour : Referat Zhur - Khimiya, No 4, 1957, 12144

Author : Sir Z., Komers R.

Title : Organosilican Compounds. VI. Determination of Silicon in Organosilicon Compounds. VII. Determination of Halogen Linked to the Silicon.

Orig Pub : Chem. listy, 1956, 50, No 1, 88-93; 162-163(Czech); Sb. chekhosl. khim. rabot, 1956, 21, No 4, 873-879; 1066-1068

Abstract : VI. A simple method was worked out for quantitative determination of Si in organosilicon compounds (OSC). Mineralization of analyzed substance is effected by wet procedure with a mixture of oleum or H_2SO_4 and fuming HNO_3. With most OSC mineralization occurs readily, only lower alkyl silanes (in particular tetramethyl silane) exhibit considerable stability. To avoid losses in the case of more

Card 1/3

be very satisfactory.
Communication V see RZhKhim, 1956, 71759.

Card 3/3

11166* (Russian) Silicoorganic [illegible] [illegible] ganicheskie soedineniia. VIII. Determ[illegible] [illegible] opredelenie and Hydrogen in Silicoorganic Compo[illegible] [illegible]
uglerodu I vodoroda v kremniiorganicheskikh soedinen[illegible]
iakh. I. Kerbl' and R. Komers [illegible]
Chemical Communications v. [illegible]

A simple semi-micro ana[illegible]
[illegible] of the product of [illegible]
was used as a combustion [illegible]
perature made it possible [illegible]
[illegible] points [illegible]

Komers, R.

Distr: 4E2c(j)/4E3d

4
[illegible](JB)
2

Gas-liquid partition chromatography of stereoisomeric methylcyclohexanols. R. Komers, K. Kochloefl, and V. Bažant (Czechoslovak Acad. Sci., Prague). *Chem. & Ind.* (London) 1958, 1405-6.—Individual stereoisomers in mixts of *cis*- and *trans*-2-methyl-, 3-methyl-, or 4-methylcyclohexanols were sepd. by gas-liquid chromatography, using stationary phases capable of H bond formation. The carrier gas was N and the stationary phase glycerol (17%) or erythritol (25%). The elution characteristics were detd. on columns charged with 3.6 g. glycerol or 6.4 g. erythritol. The retention values were expressed relative to *cis*-2-, *trans*-3-, and *cis*-4-methylcyclohexanol for compds. substituted in the 2, 3, and 4 positions. The following relative retention vols. of the compds. were obtained with glycerol at 109° and erythritol at 130° (I = methylcyclohexanol): *cis*-2-I, 1.00, 1.00; *trans*-2-I, 1.32, 1.38; 2-methylcyclohexanone, 0.52, 0.68; *cis*-3-I, 1.37, 1.32; *trans*-3-I, 1.00, 1.00; 3-methylcyclohexanone, 0.52, 0.67; *cis*-4-I, 1.00, 1.00; *trans*-4-I, 1.36, 1.32; 4-methylcyclohexanone, 0.53, 0.71; V_g° (sp. retention vols) for *cis*-2-I were 92, 18.2; V_g° for *trans*-3-I, 120, 26.80; V_g° for *cis*-4-I, 133, 26.80. Stereoisomeric mixts. of 2,6-dimethylcyclohexanol and 4-*tert*-butylcyclohexanol were also analyzed. L. Teteloff

7

Gas chromatography of monohydric phenols. Jaroslav Janák, Radko Komers, and Jiří Šíma (Českoslov. akad. věd, Brno, Czech.). *Chem. listy* 52, 2296-310(1958).—With increasing polarity of the mols. of the stationary phase appears a certain selectivity manifested by a relative increase in the adsorption of strongly polar phenols, eventually by a lowered adsorption of those phenols in which steric hindrance leads to a decrease in the dipole moment. Similarly, with increasing mol. wt. the magnitude of the dipole moment of the stationary phase falls. Likewise the selectivity falls with increasing temp. The possibility of H bond formation between the OH group of the phenol and the functional groups of the stationary phase is detd. on one hand by the magnitude of the dipole moment, on the other hand by the degree of steric hindrance. Various examples are given. Specific elution vols. (chromatographic spectra) of 19 phenols on 15 nonpolar and polar phases are tabulated. Of these Apiezon L or dimethylpolysiloxane are suitable for sepn. according to the C no. and erythritol or glucose ethylenemercaptal for sepn. according to the degree of steric hindrance of the OH group. Optimal temp. of sepn. is 150-70°. The reproducibility and validity of the measured surfaces below the elution curve of the chromatogram was studied in relation to the wt. and molar compn. of the mixts. in H and N as supporting gases. In N the deviations of the wt.-% obtained from the surfaces without calibration are in error by about 10 wt.-% of the content of the component, while in H the error for isomers with an equal no. of C atoms in the mol. is smaller, i.e. 2 wt.-% and about 10 wt.-% for the 1st and 2nd member of a homologous series. In neither case can mixts. of homologous phenols be analyzed without calibration. L. J. Urbánek

5

Distr: 4E2c(j)/4E3d

5

3 May

2

Distr: 4E3d/4E2c(j)

7

Separation of mono- and di-functional phenols by means of gas chromatography. Jaroslav Janák and Radko Komers (Akad. Wiss., Brno, Czech.). *Z. anal. Chem.* 164, 69-72 (1958).—Monofunctional phenols are sepd. into groups by gas chromatography on Apiezon L or poly(dimethyl siloxane), and sepd. into compds. by phenylmercaptothiadiazole, salicylideneaminoguanidine, benzyl arabinosate, γ-lactone of galactonic acid (I), erythritol, and dulcitol with the effectiveness increasing from the first to the last. Difunctional phenols are sepd. by I, mannitol, and inositol.

K. G. Stone

LB

1/1

Acidity and activity of fluoroborate catalysts. M. Kraus, K. Kochloefl, R. Komers, and V. Bažant (Čsl. akad. věd, Prague). ~~Collection Czechoslov.~~ *Chem. Communs.* 24, 1188-93(1959).—The study of the isomerization of *o*- to *m*- and *p*-xylene, of *p*-cresol, and of the disproportionation of xylene, cumene, and *o*-iso-PrC$_6$H$_4$OH on catalysts prepd. by impregnating γ-alumina with Al(BF$_4$)$_3$ (I) (*C.A.* 52, 12528h) indicates that the catalyst activity is proportional to the abundance of acid centers and that catalysis is caused by a new compd. formed from alumina and I which contains approx. 20% I. M. Hudlický

6

5 (3) SOV/20-126-6-34/67

AUTHORS: Komers, R., Bazhant, V.

TITLE: Analysis of the Mixture of Dimethyl Esters of Benzene-dicarboxylic Acids by Means of the Gas-Liquid Chromatography (Analiz smesi dimetilovykh efirov benzoldikarbonovykh kislot pri pomoshchi gazozhidkostnoy khromatografii)

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 126, Nr 6, pp 1268 - 1269 (USSR)

ABSTRACT: In recent times, phthalic-, isophthalic-, and terephthalic acid which belong to the acids mentioned in the title gained considerable importance as intermediate products in the production of some plastics. This applies above all to terephthalic acid which serves for the production of artificial fibers of the polyester type. The good quality of the fibers depends on the maximum purity of this acid or of its dimethyl ester - the initial product for polyethylene terephthalate. The methods of determination of the mentioned purity described in publications (Refs 1-6) are on the one hand very complicated and not sufficiently precise, on the other, they do not permit the simultaneous determination of all 3 isomers. For the case that the distribution of the iso- and terephthalic acid could not be at-

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Analysis of the Mixture of Dimethyl Esters of Benzene-dicarboxylic Acids by Means of the Gas-Liquid Chromatography

SOV/20-126-6-34/67

tained by paper chromatography, Franc (Ref 6) described the nitration of their mixture with subsequent separation by paper of the nitro-derivatives obtained. Also in this case, however, the presence of phthalic acid (or of its 3- and 4-nitro-derivatives) exercises a disturbing effect. The authors found that by means of the chromatography (Ref 7) mentioned in the title the necessary separation may be attained in certain stationary phases which contain oxygroups. This is due to the different association of the individual isomeric methyl esters with the stationary phase. The presence of benzoic acid ester has no effect at all on the results of chromatographic analysis. The device by the firm Griffin and George (London) was used for the investigations. Nitrogen at 165° served as carrier gas. Porous material "pórovina" (Ref 8) wetted with 10.8% erythrite served as checker (nasadka) of the column. The specific elution volume V_g^o was calculated for dimethyl isophthalate. Table 1 gives the results. Figure 1 shows the course of the chromatographic analysis. There are 1 figure, 1 table, and 7 references.

Card 2/3

Analysis of the Mixture of Dimethyl Esters of Benzene-dicarboxylic Acids by Means of the Gas-Liquid Chromatography SOV/20-126-6-34/67

ASSOCIATION: Otdeleniye organicheskoy tekhnologii Khimicheskogo instituta Chekhoslovatskoy Akademii nauk, Praga (Department of Organic Technology of the Chemical Institute of the Czech Academy of Sciences, Prague)

PRESENTED: April 1, 1959, by B. A. Kazanskiy, Academician

SUBMITTED: March, 27, 1959

Card 3/3

KOMERS, R.; KOCHLOEFL, K.

A study on the gasochromatographic separation of the stereoisomers of alkylcyclohexanoles. Coll Cz Chem 28 no.1:46-54 Ja '63.

1. Institut fur theoretische Grundlagen der chimischen Technik, Tschechoslowakische Akademie der Wissenschaften, Prag.

CZECHOSLOVAKIA

KOMERS, R.

Institute of Theoretical Foundations of Chemical Technology of the Czechoslovak Academy of Sciences, Prague

Prague, Collection of Czechoslovak Chemical Communications, No 6, 1963, pp 1549-1555

"Study of the Gaschromatographic Separation of the Methylesters of Benzolmonocarbonic Acid and Benzoldicaronic Acid."

KOMERS, R.

Research on gas chromatographic separation of methyl ester of benzenemonocarboxylic and benzenedicarboxylic acids. Coll Cz Chem 28 no.6:1549-1556 Je '63.

1. Institut fur theoretische Grundlagen der Chemischen Technik, Tschechoslowakische Akademie der Wissenschaften, Prag.

LUKES, V.; KOMERS, R.

On Terpenes. Pt. 163. Coll Cz chem 29 no.7:1598-1603 Jl '64.

1. Institute of Organic Chemistry and Biochemistry, Czechoslovak Academy of Sciences, Prague.

KOMERS, R.; KOCHLOEFL, K.

Study of the chromatographic behavior of some cyclic ketones in the gas-liquid system. Coll Cz chem 29 no.8:1803-1808 Ag '64.

1. Institute for Chemical Process Fundamentals, Czechoslovak Academy of Sciences, Prague.

KOMERS, Ye.G.

Use of aluminum in the automobile industry abroad. Biul.tekh.-ekon.inform. no.8:86-89 '59. (MIRA 13:1)
(Automobile industry) (Aluminum)

KUPCHA, S.; SHTRAUS, Kh.: LENGEL', I.; DELYANU, M.; KOMES, V.

Sanitary and hygienic study of air pollution in the city of T. of the Rumanian People's Republic. Trudy LSGMI no.58:113-116 '60. (MIRA 14:11)

(RUMANIA—AIR POLLUTION)

KOMISHKO, K. K.

35593 Vnematochnaya beremennost' za 10 let (1936-1946-GG.) Trudy sev.-oset. Gos. Med. In-ta, Vyp. 4, 1949, C. 81-89

SO: Letopis' Zhurnal'nykh Statey, Vol. 45, 1949

KOMESHKO, K. K.

35594 Kriminal'nyye aborty. Trudy sev.-oset. Gos. Med. In-ta, Vyp. 4, 1949, C. 113-18

SO: Letopis' Zhurnal' nykh Statey, Vol. 45, 1949

KOMESHKO, K.K., (Smolensk, B. Sovetskaya, ul., d. 22/2, kv.9)

Surgical treatment of cancer of the uterine cervix [with summary in English]Vop. onk. 4 no.4:475-478 '58 (MIRA 11:9)

1. Iz kafedry akusherstva i ginekologii (zav. - prof. S.M. Kleyn) Smolenskogo med. instituta (dir. - dots. G.M. Starikov).
(CERVIX NEOPLASMS, surg.
statist. (Rus))

KOMESHKO, K.K., dotsent

Cancer of the uterine cervix and pregnancy. Akush. i gin. 35
no.3:111-112 My-Je '59. (MIRA 12:8)

1. Iz kafedry akusherstva i ginekologii (zav. - prof.S.M.Kleyn)
Smolenskogo meditsinskogo instituta.
(CERVIX NEOPLASMS, in pregn.
(Rus))
(PREGNANCY, in various dis.
cancer of cervix (Rus))

KOMESHKO, K.K., dotsent

Architectonics of the placent blood vessels in premature labor.
Akush.i gin. no.6:28-35 '60. (MIRA 14:1)

1. Iz kafedry akusherstva i ginekologii (zav. - prof. S.M. Kleyn) Smolenskogo meditsinskogo instituta.
(PLACENTA--BLOOD SUPPLY) (INFANTS (PREMATURE))

KOMESHKO, K. K., dotsent

Significance of placental acetylcholine in premature pregnancy.
Akush. i gin. no.3:27-32 '61. (MIRA 14:12)

1. Iz kafedry akusherstva i ginekologii (zav. - prof. S. M. Kleyn)
i kafedry normal'noy fiziologii (zav. - prof. N. A. Yudenich)
Smolenskogo meditsinskogo instituta.

(CHOLINE) (PLACENTA) ,(PREGNANCY, COMPLICATIONS OF)

KOMESHKO, K.K., dotsent

Therapy of cervical pregnancy. Sov.med. 26 no.6:106-111 Je '62.
(MIRA 15:11)

1. Iz kafedry akusherstva i ginekologii (zav. - prof. S.M.Kleyn) Smolenskogo meditsinskogo instituta (dir. - dotsent G.M.Starikov).
(PREGNANCY, EXTRAUTERINE)

KOMESHKO, K.K., dotsent; SONKIN, A.S.

Diagnosis and surgical treatment of 1075 patients with extrauterine pregnancy. Trudy SMI 17:34-45 '63. (MIRA 18:1)

1. Iz kafedry akusherstva i ginekologii (zav. - dotsent K.K. Komeshko) Smolenskogo gosudarstvennogo meditsinskogo instituta.

GUDZHEDZHIANI, B.I.; CHICHUA, B.K.; PETROVSKIY, G.D.; KOMETIANI, G.A.; AZMAYPARASHVILI, M.V.; AVALISHVILI, E.Ye.[deceased]; MIRZIASHVILI, T.M.; SHCHERBAKOV, D.I., glav.red.; ARCHVADZE, Sh.R., red.; BOGOLYUBOVA, L.I., red.; VAL'TS, I.E., red.; TAVADZE, F.N., red.; YABLOKOV, V.S., red.; PEVZNER, G.Ye., red.izd-va; MAKUNI,Ye.V., tekhn. red.

[Coal atlas of the Caucasus] Atlas uglei Kavkaza. By B.I.Gudzhedzhiani i dr. Moskva, Izd-vo Akad.nauk SSSR, 1961. 167 p. (MIRA 14:12)

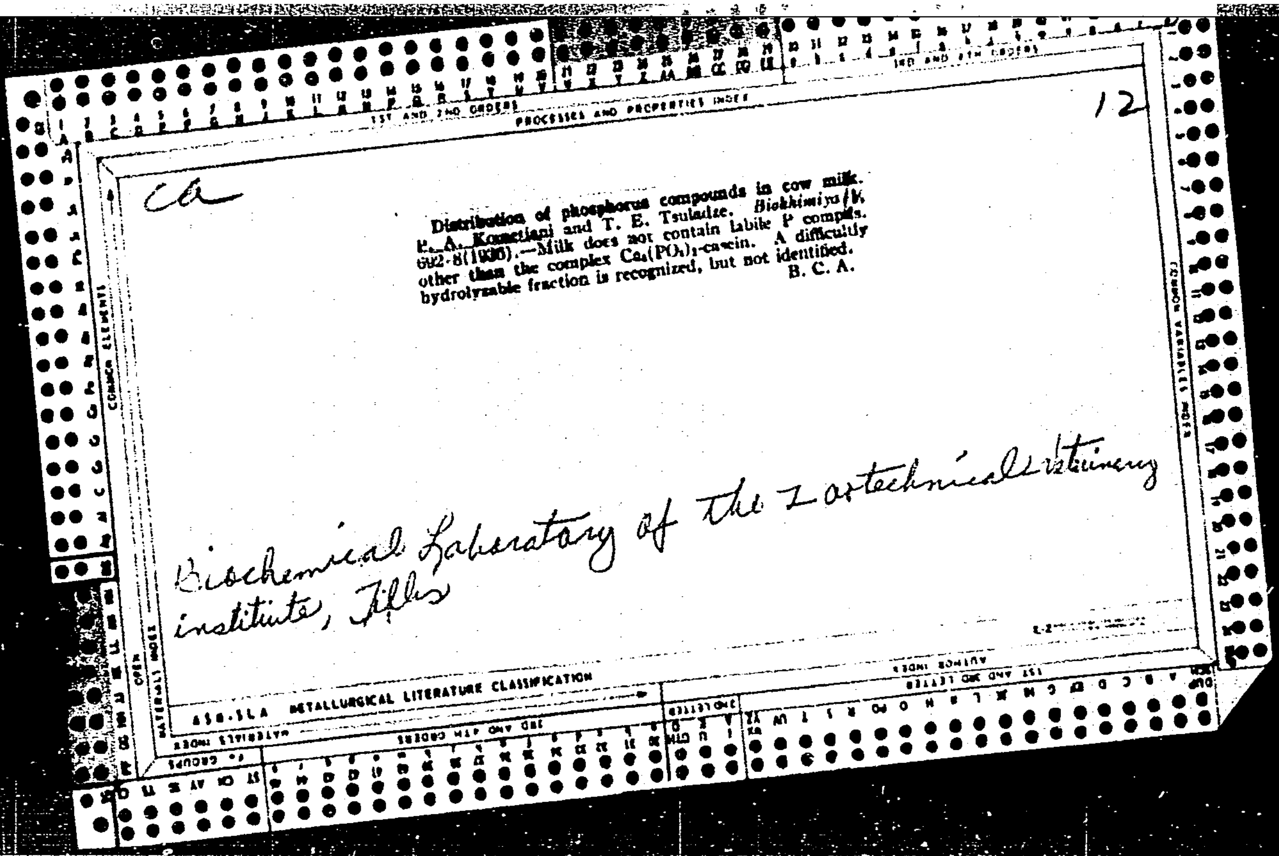
1. Akademiya nauk Gruzinskoy SSR, Tiflis. Sovet po izucheniyu proizvoditel'nykh sil.

(Caucasus--Coal geology)

MERABISHVILI, M.S., glavnyy red.; AVALIANI, G.A., red.; BAKRADZE, I.V., red.; DOLABERIDZE, L.D., red.; KAKABADZE, N.A., red.; KOMETIANI, G.A., red.; TVALCHRELIDZE, G.A., red.; TEGONIDZE, G.I., red.; FOKIN, A.M., red.; FILATOV, S.S., red.; EDILASHVILI, V.Ya., red.; BEREZOVSKAYA, L.I., red.izd-va; IVANOVA, A.G., tekhn.red.

[Yearbook of the Caucasus Institute of Raw Minerals for 1957] Ezhegodnik Kavkazskogo instituta mineral'nogo syr'ia za 1957 god. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po geol. i okhrane nedr, 1959. 54 p. (MIRA 13:12)

1. Tiflis. Kavkazskiy institut mineral'nogo syr'ya.
(Caucasus--Mines and mineral resources)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PROCESSES AND PROPERTIES INDEX
3RD AND 4TH ORDERS
COMMON ELEMENTS
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AUTHOR INDEX
1ST AND 3RD LETTER

12

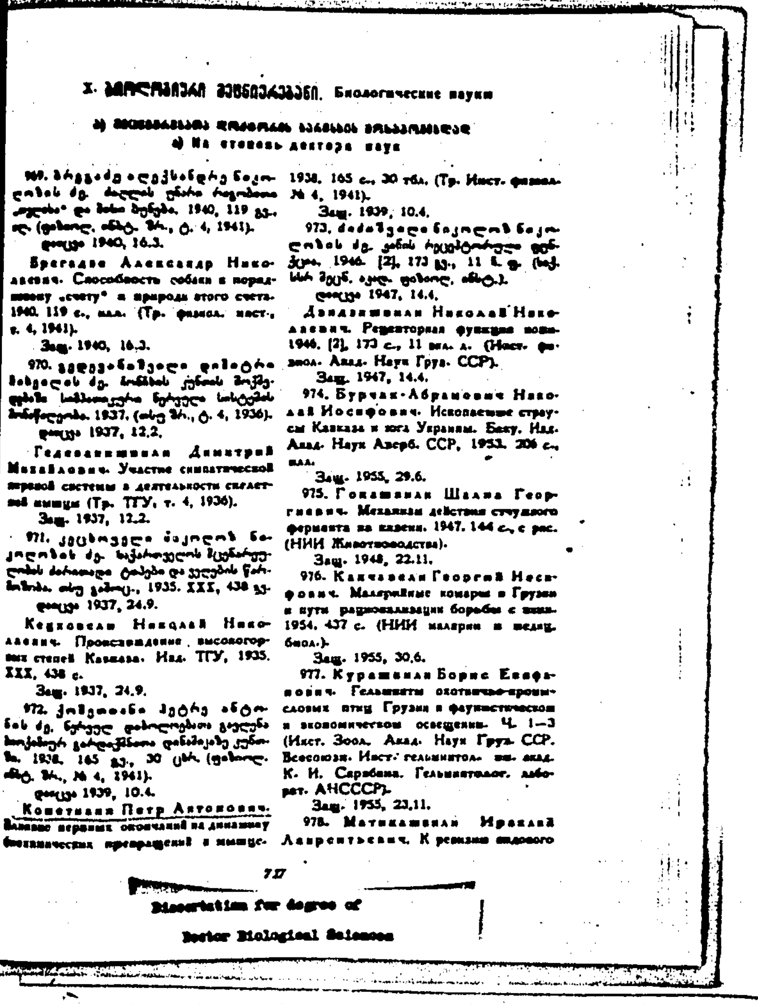
Ca

Distribution of phosphorus compounds in cow milk. P. A. Kometiani and T. E. Tsuladze. *Biokhimiya* 1, 692-8(1936).—Milk does not contain labile P compds. other than the complex $Ca_4(PO_4)_2$-casein. A difficultly hydrolyzable fraction is recognized, but not identified.
B. C. A.

Biochemical Laboratory of the Zootechnical Veterinary institute, Tiflis

KOMETIANI, P.A-

Def. at
Tbilisi State U.



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а) [illegible]

а) На степень доктора наук

969. [illegible] 1940, 119 [illegible] (… 4, 1941).

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Брегадзе Александр Николаевич. Способность собаки к порядковому „счету" и природа этого счета. 1940. 119 с., илл. (Тр. физиол. инст., т. 4, 1941).

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Гедеванишвили Димитрий Михайлович. Участие симпатической нервной системы в деятельности скелетной мышцы (Тр. ТГУ, т. 4, 1936).

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Кецховели Николай Николаевич. Происхождение высокогорных степей Кавказа. Изд. ТГУ, 1935. XXX, 438 с.

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972. [illegible] 1938, 165 [illegible], 30 [illegible] (… № 4, 1941).

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Защ. 1947, 14.4.

974. Бурчак-Абрамович Николай Иосифович. Ископаемые страусы Кавказа и юга Украины. Баку. Изд. Акад. Наук Азерб. ССР, 1953. 206 с., илл.

Защ. 1955, 29.6.

975. Гонашвили Шалва Георгиевич. Механизм действия сычужного фермента на казеин. 1947. 144 с., с рис. (НИИ Животноводства).

Защ. 1948, 22.11.

976. Канчавели Георгий Иосифович. Малярийные комары в Грузии и пути рационализации борьбы с ними. 1954. 437 с. (НИИ малярии и медиц. биол.).

Защ. 1955, 30.6.

977. Курашвили Борис Евфимович. Гельминты охотничье-промысловых птиц Грузии в фаунистическом и экономическом освещении. Ч. 1—3 (Инст. Зоол. Акад. Наук Груз. ССР. Всесоюзн. Инст. гельминтол. им. акад. К. И. Скрябина. Гельминтолог. лаборат. АНСССР).

Защ. 1955, 23.11.

978. Матикашвили Ираклий Лаврентьевич. К ревизии видового

717

Dissertation for degree of

Doctor Biological Sciences

1ST AND 2ND ORDERS

3RD AND 4TH ORDERS

PROCESSES AND PROPERTIES INDEX

CA

11F

Phosphorylation in muscles with and without nerve endings. E. A. Kometiani. *Biokhimiya* 3, 663-72 (1938).—As is well known, the operation of enzymes bringing about phosphorylation is closely connected with the oxidation-reduction system. In those parts of muscles where nerve endings are concd. and where more O is used, the phosphorylation reaction goes on more intensely. This was proved by NaF poisoning of frog muscles with and without nerve endings under aerobic conditions. The difficultly hydrolyzable P fraction of muscle with nerve endings increased by 30-50%. H. Cohen

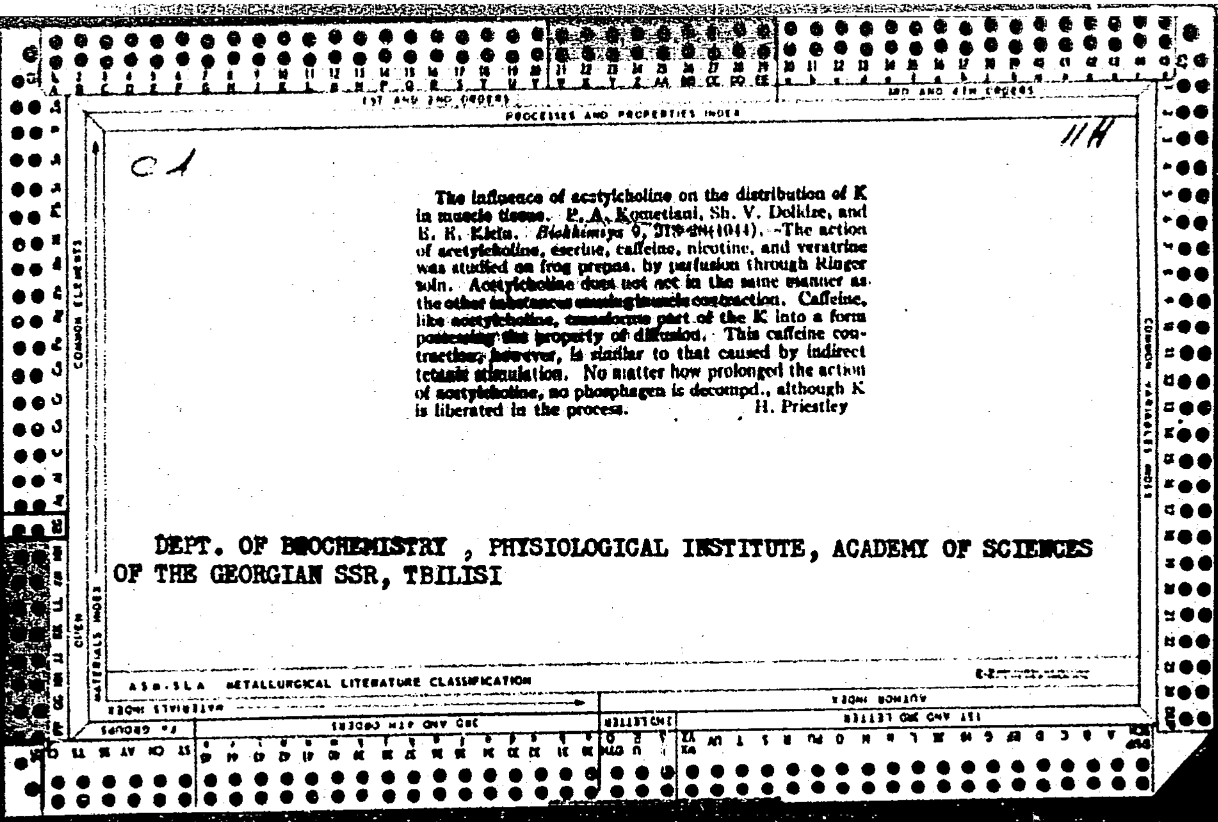
~~On the~~ Chair of Physiology of the Biochem, Rep. State University im. Stalin, Tiflis

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

KOMETIANI P.A. The Beritashvili Physiological Institute, The Academy of Sciences, The Georgian S.S.R. The phase boundary potential of redox systems and the theory of the development of bioelectric currents Bulletin of the Academy of Sciences of the Georgian S.S.R. 1943, 4/3 (261-268) Illus. 2

The author enlarges the view that the basic factor of a bio-electrical potential is metabolism, the breakdown and resynthesis of substances. The breakdown is connected with oxidation. Biolotical oxidation is catalysed by reversible redox systems. If two redox systems are separated by a membrane through which the movement of different ions is not the same, the reaction between these systems causes polarization of the membrane. The phase boundary potentials of some reversible redox systems (chinonhydrochinon, methylene-blue, dichlorphenolindophenol) were measured. The influence of the concentration of the electrolyte and the electrokinetic potential of the membrane on the magnitude of the phase boundary potentials was determined. Author

SO: Physiology, Biochemistry and Pharmacology, Section II, Vol. I, #1-6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1ST AND 2ND LETTER

C 1

11 H

The influence of acetylcholine on the distribution of K in muscle tissue. P. A. Kometiani, Sh. V. Dolidze, and E. K. Kikia. *Biokhimiya* 9, 319-[illegible](1944). —The action of acetylcholine, eserine, caffeine, nicotine, and veratrine was studied on frog prepns. by perfusion through Ringer soln. Acetylcholine does not act in the same manner as the other substances causing muscle contraction. Caffeine, like acetylcholine, transforms part of the K into a form possessing the property of diffusion. This caffeine contraction, however, is similar to that caused by indirect tetanic stimulation. No matter how prolonged the action of acetylcholine, no phosphagen is decompd., although K is liberated in the process. H. Priestley

DEPT. OF BIOCHEMISTRY , PHYSIOLOGICAL INSTITUTE, ACADEMY OF SCIENCES OF THE GEORGIAN SSR, TBILISI

573. Kometiani P.A. The Beritashvili Physiological Institute, the Academy of Sciences the Georgian SSR The rate of oxygen consumption with the "catch action" of the body wall of a leech Soobshtchenija Akademii Nauk 1945, 6/1 (65-72) Tables 4, Illus. 1

A study of respiration in connection with the investigation by Beritashvili of the catch-action of the cutaneous-muscular body wall of the leech. The experiments were carried out in Warburg's apparatus with a special vessel for respiration. The data obtained show that, when the leech is in a stretched or contracted state, the load evokes a corresponding increase of oxygen consumption. The increase of respiration intensity disappears immediately after the load is taken off, regardless of whether the leech is in a stretched or a contracted state. The oxygen consumption is also increased sharply by loading the preparation during the process of catch-action. The increase is relatively higher for small loads. The increase of the load does not evoke a proportional increase of the oxygen consumption. The above data show that the nature of the tonic tension of the body wall of a leech differs from the catch-action of the smooth muscles.

Author

So: Physiology, Biochemistry & Pharmacology, Section II, Vol. 1, #1-6

KOMETIANI, P. A.

"On the Mechanism of the Action of Acetylchlorine on Muscle Tissue."

Biockim., 11, No 3, 1946.

Biochem. Section , Inst. of Physicology, Acad. Sci. of the Georgian SSR, Tbiliss.

KOMETIANI, P. A.

"Microcolorimetric Determination of Potassium."

Biokhim., 11, No 11, 1946. Chair of Chemistry, Sootechnical Inst., Tbilissi.

KOMETIANI, P. A., PROF.   PA5/49T75

USSR/Medicine - Electrophysiology   Jul 48
Medicine - Metabolism

"Sources of Bioelectric Current," Prof P. A. Kometiani, 5 pp

"Priroda" No 7

One of chief problems in physiology has been determination of exact nature of relationship of bioelectric currents to life processes. Describes diffusion potential, potentials of various membranes, potentials of boundary phases, potentials in oxidation and reduction processes, and bioelectric current as the result of combined effects of diffusion and interphase potentials and phase potentials of oxidation and reduction processes.

5/49T75

KOMETIANI, P. [A.]

Interrelation between acetylcholine and potassium in muscle tissue.
Trudy Inst.fiziol. AN Gruz.SSR. 7:393-424 '48. (MLRA 9:8)
(ACETYLCHOLINE) (POTASSIUM IN THE BODY)
(MUSCLE)

KOMETIANI, P.A.; KLEYN, Yelena.

Intensity of oxidizing processes in different regions of the brain.
Soob.AN Gruz.SSR 9 no.4:217-223 '48. (MIRA 9:7)

1.Chlen-korrespondent Akademii (for Kometiani)
(BRAIN) (OXIDATION, PHYSIOLOGICAL)

KOMETIANI, P.A.; KLEYN, Yelena.

Distribution and amount of enzymatic decomposition of acetylcholine, adrenalin, and histamine in different regions of the brain. Soob. AN Gruz.SSR 9 no.5:277-283 '48. (MIRA 9:7)

1.Chlen-korrespondent AN GSSR (for Kometiani).2.Akademiya nauk Gruzinskoy SSR, Institut fiziologii imeni akademika I.S.Beritashvili, Tbilisi.

(Enzymes) (Brain)

KOMETIANI P. A. and SMURUA N. G. A micro-method for determination of citric acid Biochimia (Russia) 1948, 13/1 (23-26)

In animal and vegetable substances previously de-albuminated, citric acid is oxidized rapidly (15 minutes at 40-45° C) by means of potassium permanganate and bromine water, and is precipitated in the form of pentabromacetone. This is separated by filtration or centrifugation, washed with ice-cold water, and dissolved in alcohol. The alcoholic solution of pentabromacetone (25 ml), treated with oxalic acid (0.1 Gm) and potassium iodide (0.5 Gm), is heated to boiling point for 3 to 5 minutes. The iodine released by the bromine is titrated with n/100 sodium hypo-sulphite. The error of the method is 4-5 per cent. The quantity of citric acid which can be titrated is 0.3 mgm (concentration = 0.1 per cent).

Benetato - Cluj

SO: Physiology, Biochemistry & Pharamacology 2.1 Jan.-June 1949

2517. Kometiani P. A. Investigation of the influence of acetylcholine on equilibrium between potassium and soluble proteins of muscular tissue Biochimia, Moscow 1948, 13/2 (137-146)
Graphs 1 Tables 6

The experiments were carried out on myogen, myo-albumin, and globulin X extracts of muscle of the rabbit. To study the distribution of the potassium ions either free or linked to albumins, the elctrical conductivity of different albumin solutions, either in the presence or absence of acetylcholine and with varying pH, was determined. Potassium was also determined after precipitation by anhydrous acetone. The results show that under the influence of acetylcholine, myogen and myo-albumin bind more potassium when the pH =6. In a more basic solution, part of the potassium bound to the albumins is released. Study of the threshold of muscular excitability at different pH values shows a greater sensitivity of the muscle to acetylcholine in the basic zone, probably dut to potassium ions being released. The shifting of the pH towards the basic side during the latent period of muscular contraction is evidently due to the action of acetylcholine and other substances of similar nature. In that case, acetylcholine does not exert a direct influence on the biochemical transformations underlying the muscular contractions, but acts on the salt equilibrium of the albumins of the sarcoplasm.

Gheorghiou - Louvain

So: Physiology, Biochemistry & Pharmacology, Section II, Vol. 2, No. 1,5

KOMETIANI, P. A.

23073 Avyaz' metabolicheskikh protsessov s biotokom. (Doklady i preniya).
V sb: gagrskiye besedy (Po eksperim. Biologii). T. I. Tbilisi, 1949,
C. 51-83. - Bibliogr: 72-73

SO: LETOPIS' NO. 31, 1949

USSR/Biology   May 49
Electrophysiology
Bioelectricity

"Conference on Bioelectrical Potentials Held in Gagrakh, Abkhaz ASSR," Prof P. A. Kometiani, 1 p

"Priroda" No 5

Conference was attended by 19 delegates who heard 14 reports. Prof D. N. Nasonov described origin of bioelectric currents and relationship between potentials in living cells. Prof D. S. Vorontsov described nature of electrical potentials in living cells. Acad I. S. Beritov reported on

[redacted]   57/49T4

USSR/Biology (Contd)   May 49

occurrence of slow potentials in the brain. Prof A. G. Ginetsinskiy discussed action of acetylcholine in bringing about excitation. Prof P. O. Makarov's report on potentials and how they are affected by momentary disruptions caused prolonged discussion.

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KCMETIANI, Prof P. A.

CA

1B

Changes in the equilibrium in the system potassium-myogen under the influence of acetylcholine. P. A. Kometiani (Acad. Sci., Tiflis, Georgia, U.S.S.R.). *Izvest. Akad. Nauk, Otdel. Khim. Nauk* **1950**, 180-97.—The effect of acetylcholine on equil. of K with sol. muscle proteins (myogen, myoalbumin, and globulin X of rabbit) was studied. Acetylcholine increases the binding ability of protein in respect to K in the vicinity of pH 6 (phosphate buffer), while at pH 7.2 the binding ability declines and part of the originally bound K is made free to diffuse. This effect occurs with myogen and myoalbumin, but not with globulin X. The variation of K activity is confirmed by conductivity measurements and by measurement of membrane potentials, when K source was mono- and di-K phosphate. Cond. of solns. of myogen in K phosphate buffer was detd. in the presence of creatine phosphate, creatine, adenosine triphosphate, and adenylic acid. The increased activity of K is brought out by acetylcholine only in the presence of creatine phosphate; other addenda have no effect. Acetylcholine does not participate in the energetic processes of muscle and its role is limited to its action on salt equil. of the sarcoplasm proteins, which in turn control the motion of contractile proteins. G. M. Kosolapoff

KOMETIANI, P.A.; DZHANDIERI, K.

Accumulation of acids in the process of alcoholic fermentation. Soobshcheniya Akad. Nauk Grusin. S.S.R. 11, No.4, 223-8 '50. (MLRA 5:12)
(CA 47 no.21:11647 '53)

KOMETIANI, P.A.

Chemical Abstracts
Vol. 48 No. 5
Mar. 10, 1954
Biological Chemistry

Kometiani 1/2.

Investigation of the enzymic activity of different portions of the brain. P. A. Kometiani and E. B. Klein (Acad. Sci. Gruzin. S.S.R., Tiflis). *Ukrain. Biokhim. Zhur.* 22, 410-19(1950)(in Russian).—Cl was detd. according to Sandrow; acetylcholine according to Feldberg (*C.A.* 39, 2555); adrenaline according to Shaw (*C.A.* 32, 3445^{7}) as modified by Utevskii and Buton (*C.A.* 43, 743); succinic dehydrogenase activity according to Warburg, as modified by Quastel and Wheatley (*C.A.* 32, 7060^{4}); succinic oxidase activity by O$_2$ absorption after succinate addition, O$_2$ being measured manometrically; cholinesterase activity manometrically in the Warburg app.; amine oxidase manometrically as described by Blashko, *et al.* (*C.A.* 32, 2552^{1}); glutamic dehydrogenase by O$_2$ absorption in a Warburg respirometer according to Edlbacher and Wiss (*C.A.* 40, 1578). In 9 bovine brains av. values for dry matter, Cl, intracellular water, and extracellular water, resp., were: white matter of the cerebrum 31.8%, 1.39 mg./g., 30.2%, and 38.0%; gray matter of cerebrum 17.9%, 1.68 mg./g., 36.9%, and 45.2%; cerebellum 21.0%, 1.47 mg./g., 39.0%, and 40.0%; thalamus 27.7%, 1.36 mg./g., 36.3%, and 36.0%; medulla 30.3%, 1.37 mg./g., 32.8%, and 37.1%. Water distribution between extra- and intracellular phases of brain tissue was calcd. on the assumption that all the Cl is in the extracellular phase; thus the calcn. is only approx., since some Cl is intracellular. Succinic dehydrogenase and succinic oxidase activities in microliters of gas/mg. of dry wt. tissue/hr., are: lobar white matter 7.2, 0.8; lobar gray matter 24.8, 4.0; cerebellum 24.3, 3.8; thalamus 15.0, 2.6; medulla 11.5, 3.1. The ratios of intracellular dry substance to intracellular water are 0.47 for lobar white matter, 0.22 for gray matter, 0.26 for cerebellum, 0.38 for thalamus, and 0.43 for medulla. This ratio gives a conception of the quantity of protoplasm and the extent of its water supply; the data indicate that the activity of oxidative enzymes depends upon the amt. of

P.A. Kometiani & E.E. Klein 2/2

protoplasm and its water content, and that the intracellular phase possesses the greater enzymic activity which contains the more water. Cholinesterase activity decreases in the order lobar gray matter > cerebellum > thalamus > medulla > lobar white matter; which is the same sequence as with succinic dehydrogenase and succinic oxidase. It is inversely proportional to the ratio of dry substance to intracellular water. Adrenaline content in γ/g. dry substance, and amine oxidase activity (in microliters O_2 consumed/mg. dry substance/hr.), resp., are: lobar white matter 0.78, 1.7; lobar gray matter 1.86, 7.0; cerebellum 1.08, 6.0; thalamus 1.54, 2.0; medulla 0.99, 1.0. In peripheral nerve, most of the acetylcholine is intracellular; most of the adrenaline, extracellular. This is explained by assuming that acetylcholine is intracellularly synthesized, and adrenaline is brought to the cell. Of all amino acids, oxidative deamination of glutamic acid is most intense in the brain. Glutamic acid is oxidized in the brain by glutamic dehydrogenase, in the presence of codehydrase I, diaphorase, the cytochrome system, adenosinetriphosphate, and pyridoxal. Glutamic dehydrogenase activity in microliters O_2 consumed/hr./mg. dry tissue: lobar white matter 0.09, lobar gray matter 0.59, cerebellum 0.58, thalamus 0.23, medulla 0.18. Glutamic dehydrogenase appears to be a more characteristic enzyme for nerve-cell formation than any of the other enzymes studied.

Clayton P. Holaway

KOMETIANI, P. A.

USSR/Biology - Acetylcholine Jan 51

"Changes in the Distribution of Phosphorus Compounds During the Process of Acetylcholine Synthesis in Brain Tissue Extracts," P. A. Kometiani, Corr Mem, Acad Sci Georgian SSR

"Soobshch Ak Nauk Gruz SSR" vol XII, No 1, pp 17-24

During the synthesis of acetylcholine in extracts of acetone powder or brain homogenate accumulation of a phosphorus compd which hydrolyzes with difficulty is observed. Experiments on oxidative phosphorylation of choline in brain homogenate prove that this compd is phosphorylcholine. Apparently the synthesis of acetylcholine does not

206T5

USSR/Biology - Acetylcholine (Contd) Jan 51

proceed over acetylphosphate, but through phosphorylation of choline. Cytochrom C does not stimulate either formation of acetylcholine or phosphorylation of choline.

206T5

(CA 47 no. 22: 12569 '53)

KOMETIANI, P.A.

Obtaining a preparation of phosphorylcholine and studying
its transformations in brain extracts. p. 407 P.A. Kometiani,
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The relation between the oxidation of glutamic acid and the synthesis of acetylcholine in brain extracts. P. A. Kometiani (Inst. Physiol., Acad. Sci. Georgian S.S.R., Tiflis). *Soobshcheniya Akad. Nauk Gruzin. S.S.R.* 12, No. 9, 531-8(1951)(in Russian).—In homogenates of rat brain the synthesis of acetylcholine (I) and phosphorylcholine (II) was slightly greater under aerobic than anaerobic conditions. With acetone powder ext. of rat brain anaerobic conditions gave a greater synthesis of I. When ATP (adenosinetriphosphate), II, and choline were all present in the reaction medium the highest synthesis of I was achieved. Omission of choline reduced the synthesis of I approx. 60% while omission of ATP lowered it by 95%. When acetone powder ext. was used, max. synthesis of I was obtained on addn. of diphosphopyridine nucleotide, diaphorase, cytochrome oxidase, and cytochrome c. Niacinamide did not affect the synthetic rate. It was concluded that II plays an important role in the synthesis of I in brain tissue and in vivo the supply of II is maintained by formation of ATP with glutamic acid furnishing the energy source via oxalacetate and the citric acid cycle.

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CA

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Formation and transformation of phosphorylcholine in the synthesis of acetylcholine in brain extracts. P. A. Kometiani (Acad. Sci., Tiflis). *Biokhimiya* 17, 108-18(1952).—During the synthesis of acetylcholine (I) from choline by an acetone ext. of brain tissue, a difficultly sol. P compd. accumulates, which has been identified as phosphorylcholine (II). I is obtained in very small yield from II by the action of brain ext. II, in common with adenosine triphosphate, hexose phosphate, and thiamine phosphate, sensitizes the muscles toward I.

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Some results of research on enzymatic conversions in the brain
[in Georgian with summary in Russian] . Trudy Inst.fiziol.AN Gruz.SSR
9:293-306 '53. (Brain) (Enzymes) (MLRA 8:9)

[illegible] USSR.

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The distribution and conversion of phosphorylcholine, ethanolaminephosphate, and glutamic acid in the brain. P. A. Kometiani. *Biokhim. Nervnoi Sistemy* (Kiev: Izdatel. Akad. Nauk Ukr. S.S.R.) 1954, 93-111; *Referat. Zhur. Khim. Biol. Khim.* 1955, No. 12022.—A study was made of the synthesis of acetylcholine (I) in the exts. of the acetone powder of the brain of rats and the conversion of glutamic acid (II). Phosphorylcholine (III) is an intermediary product in the process of formation of I. In the presence of adenosinetriphosphate II disappears and I is synthesized simultaneously. Expts. with P^{32}-labeled esters of choline and of ethanolamine using cats and dogs demonstrated a high rate of renewal of I and III, especially in the brain; the max. specific radioactivity of P in I and II were found in the cerebellum and in the grey matter of the cerebrum. A study was made of the oxidative deamination of II in the different parts of the brain and of the content of II and its amide. The motor centers of the brain are characterized by the most intense activity. II plays a role in the reamination of the adenylic system, with γ-aminobutyric acid and β-alanine as donators of amino groups.

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Кометиани, П.А.

Paths of resynthesis of adenosinetriphosphate (ATP).
Utilization of γ-aminobutyric acid and β-alanine in reamina-
tion of the aden,lic system by brain homogenate. P. A
Kometiani and E. E. Klein (N. S. Beritashvili Inst. Physiol.,
Tiflis). *Soobshcheniya Akad. Nauk Gruzin. S.S.R.* 16, No.
9, 691-8(1955); cf. *C.A.* 49, 6339*h*.—Expts. with dialyzed
or undialyzed rat-brain homogenates in phosphate buffer
at pH 7.5 showed that reamination of the adenylic system
can take place on replacement of glutamic acid with γ-
aminobutyric acid or $H_2NCH_2CH_2CO_2H$. Pyridoxal phos-
phate shows a pos. effect in the reamination only in the
presence of dialyzate or of boiled tissue ext. ATP stimulates
reamination only if the donor is glutamic acid and glutamine;
it does not function with γ-aminobutyric acid. It is indi-
cated that glutamic acid is used in the reamination after
decarboxylation.

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USSR/General Biology. Physical and Chemical Biology. B-1

Abs Jour : Ref Zhur-Biol., No 16, 1968, 71492

Author : Kometiani, P. A.
Inst : AS Georgian SSR.
Title : Factors Determining Irregular Spread of Electrolytes and Water in Intra- and Extracellular Space.

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Abstract : In the fermentation of brewer's yeast, the content of the acid form of glutathione, which serves as an indication of the change of the redoxipotential, decreases. At the same time, the transfer of K from an outside medium into the cell is strenghtened. In the presence of methylene blue,

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the content of acidic glutathione is sharply increased, but toward the end of the fermentation, both are completely restored. With the increase of pH of the extracellular medium at the initial stage of fermentation, the content of K-ions in it increases. Methylene blue, by decreasing the production of acids, causes the transfer of K from the cells into the external medium. By means of a differential manometer, it is shown that in the gastrocnemius and sartorius muscles of a frog fatigued by tetanus stimulation, the vapor pressure is increased; i. e., the content of free water is increased at the expense of bound water. At the same time, the content of dry residue in the muscle tissue is

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Distribution of water and changes in its state in muscle tissue during fatigue. Trudy Inst. fiziol. AN Gruz. SSR 10:309-315 '56. (MIRA 12:7)

(MUSCLES, metabolism,
    water content & distribution in fatigue (Rus))
(FATIGUE, metabolism,
    musc. water content & distribution in (Rus))
(WATER, metabolism,
    musc., content & distribution in fatigue (Rus))